

## Lahontan Regional Water Quality Control Board

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### **Draft Data Gap Investigation Work Plan, Non-CERCLA Site OT071, Former George Air Force Base, Victorville, San Bernardino County**

The California Regional Water Quality Control Board, Lahontan Region (Water Board) staff received the *Draft Data Gap (DG) Investigation Work Plan (WP), Non-CERCLA Site OT071, Former George Air Force Base (GAFB)* on December 11, 2015. Agency comments were requested by February 5, 2016. Water Board staff are in general agreement on the Draft DGWP, but a limited number of comments are provided below. Please work with staff to resolve these comments before finalizing this document.

#### **Background**

The DGWP describes data gap well installation activities to be performed at Site OT071, which encompasses approximately 900 acres and consists of pesticides (primarily dieldrin) in groundwater beneath the former housing areas and the Westwinds Golf Course. Data gaps at Site OT071 were identified in the Draft Non-CERCLA OT071 Corrective Action Plan for Pesticides in Groundwater (MWH, 2011) and during discussions between the Air Force (AF) and the Water Board. Five wells are proposed to further characterize the lateral and vertical extent of the dieldrin groundwater plume identified by the Air Force and the Water Board. Five shallow soil boreholes are proposed to be drilled separately from the well borings to provide dieldrin concentrations and lithologic data for calibration of future vadose zone modeling.

#### **General Comment**

The scope of the data gap investigation was discussed in a September 22, 2015 meeting between the Air Force, CBI, and the Water Board in Sacramento and documented in an October 15, 2015 letter from CBI to the Water Board. The DGWP is consistent with the previous discussion and letter, and we commend the Air Force and CBI for this collaborative process. We are providing the following comments to further refine the DGWP. We request that the Air Force work with Water Board staff to resolve these comments prior to issuing the Draft Final version of the DGWP.

KIMBERLY COX, CHAIR | PATTY Z. KOUYOUNDJIAN, EXECUTIVE OFFICER

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**Specific Comments****Comment 1, Table of Contents, Section 2**

The Background section (Section 2) starts off with background information and continues with the elements of the DG investigation. We recommend changing the section numbering so that Work Rationale (previously numbered section 2.2) be the start of section 3.0 and named Data Gap Investigation (or something comparable), and renumber the subsequent sections. The following comments refer to the original section numbers used in the draft DGWP.

**Comment 2, Background section 2.1.2, p. 2-4**

The text in the draft DGWP stated "The water quality objective at Site OT071 is 0.002 ug/L, which is the California Department of Public Health (CDPH) advisory level for Dieldrin." Please revise the text as follows: "The water quality objective at Site OT071 is 0.002 ug/L, which is the current analytical detection limit and California Department of Public Health (CDPH) advisory level for Dieldrin."

**Comment 3, Background section 2.2.2, p. 2-6**

The numbering of the soil borings starts with OT071-SB02. Please clarify in the response to comments why the numbering starts with -SB02 instead of -SB01.

**Comment 4, Background section 2.3, p. 2-7, 1<sup>st</sup> paragraph, 1<sup>st</sup> sentence**

Please include wells MW-161 and MW-163 in the list of wells that require Air Force Encroachment Permits or explain why these 2 wells to not require them.

**Comment 5, Background section 2.4.2.3, p. 2-9, 1<sup>st</sup> paragraph, 1<sup>st</sup> sentence**

Please revise "Centralizers may be used during the installation..." to "Centralizers will be used during the installation..." or provide an explanation of conditions that would warrant not using centralizers.

**Comment 6, Background section 2.4.2.3, p. 2-9, 1<sup>st</sup> paragraph, 2nd sentence**

Please revise the second sentence as follows: "Centralizers ~~should~~ will be installed at 40 feet spacing on the blank casing and at ~~20-foot intervals on~~ immediately above and below the screen interval."

**Comment 7, Background section 2.4.2.4, p. 2-9**

Please add language to the end of this section to clarify that the elevations of wells screen intervals shown in Table 2-1 are tentative and will be refined based on where groundwater is actually encountered during drilling such that that screen extends 5 feet above and 15 feet below the water level. Please add similar language as a footnote to Table 2-1.

**Comment 8, Background section 2.4.2.8, p. 2-11**

Please add language to the end of this section to clarify that grout will be allowed to settle (soak into the formation) for at least 8 hours and topped off as necessary.

**Comment 9, Background section 2.4.2.12, p. 2-11, 1<sup>st</sup> sentence**

This section states that the above ground well completions will be switched to flush-mount well completions "if necessary." Please clarify what site conditions would warrant this change (e.g., high traffic areas and/or low-lying areas subject to flooding).

**Comment 10, Background section 2.4.3, p. 2-12**

Please clarify that well permits will be obtained from the San Bernardino County Department of Public Health, Environmental Health Services for this non-CERCLA site.

**Comment 11, Background section 2.4.4, p. 2-13, last bullet on page**

This bullet states that development will continue until the "Thickness of the accumulated sediment in the well is less than 1 percent of the length of the well screen." For the 20-foot screens planned for the wells, this would be 2.4 inches of sediment that could be left at the bottom of the wells, which seems excessive. Please revise this section to state that all measured sediment will be removed during well development. We understand that some sediment may settle out of the water column after well development.

**Comment 12, Background section 2.4.4, p. 2-14, 1st bullet**

Add that stabilization is defined as three or more readings that are within the tolerances for temperature, pH, and conductance as described in the Shaw/CBI Standards for Conducting Well Development (No. EID-GS-037, page 7 of 9) included in Appendix A, but not listed on the Appendix A cover sheet and not referenced in the text.

Please review the contents of Appendix A and include all of the Standard Operating Procedures on the cover sheet of the appendix.

**Comment 13, Background section 2.4.4, p. 2-14, add another bullet**

Add another bullet indicating that drilling fluids have been sufficiently removed from the formation based on measured parameters as described in the Shaw/CBI Standards for Conducting Well Development (No. EID-GS-037, page 7 of 9).

**Comment 14, Background section 2.4.4, p. 2-14, add another bullet**

Add another bullet to provide a minimum number well volumes of water to be removed during the well development (e.g., six well volumes) as described in the Shaw/CBI Standards for Conducting Well Development (No. EID-GS-037, page 7 of 9).

**Comment 15, Background section 2.4.4, p. 2-14, 1st new paragraph, last sentence**

Regarding the approval of the potable water source, please clarify who will provide the approval (e.g., Air Force and Water Board approval).

**Comment 16, Background section 2.4.8.2, p. 2-17, 1st paragraph, last sentence**

Please qualify as follows: "Samples from depths below at least two non-detect results will not be analyzed."

**Comment 17, Background section 2.4.8.2, p. 2-17, 3rd paragraph**

Please provide an update on the vadose zone model. Please indicate if a specific model has been selected and, if so, please specify which model will be used.

**Comment 18, Report Preparation section 3.0**

This section describes how the report will be uploaded to the AF database. Please include a statement that the final report will be uploaded to the Water Board's GeoTracker database.

If you have any questions regarding this letter, please contact me at (760) 241-7340, Todd.Batley@waterboards.ca.gov or Cindi Milton (760) 241-7413, Cindi.Milton@waterboards.ca.gov.



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